significant amounts during that time period. Further analysis indicates that intake of saturated fat did not change, despite the increase in total fat intake, and cholesterol intake declined significantly (-4.62%) due to reduced intakes from whole milk, eggs and pastries. No data on trans fat were available. This reduction in cholesterol intake appears to be due to both changes in consumer food choices, as intakes of whole milk and eggs decreased, as well as the replacement of animal fats with vegetable oils in foods, as pastry intake increased but cholesterol intake from this category decreased. The data indicates that the public has heard the message to reduce saturated fat and cholesterol intake and has responded by reducing intakes of foods known to be sources of these unhealthy fats. However, they may have switched to foods with other types of fat, resulting in the small increase in fat intake we observed. The major sources of this increased fat intake were reduced fat milks, meat mixtures, vegetables and snacks, indicating that the public might need more education about the "hidden" fat in these foods.

743.2

Trends in the association of socioeconomic position with dietary energy and macronutrient intake: NHANES 1971-1975 to 1999-2002

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The socioeconomic differential in health disparities has increased rather than declining in the last three decades. The socioeconomic differential in health has been attributed to a host of factors including health risk behaviors. We examined trends in the association of indicators of socioeconomic position (SEP) and self-reported dietary intake in adults >25 y, using data from NHANES I (1971-75, n=10,537), II (1976-80, n=10,131), III (1988-94, n=13,668) and NHANES 1999-2002 (n=7506). The independent association of education and poverty income ratio or PIR (ratio of income to poverty threshold specific to each survey), with intake of energy, percentage of energy from macronutrients, and overall dietary variety was examined using multiple regression to adjust for age, gender, race/ethnicity, BMI, and smoking status. Across all surveys combined, in multivariate models that included either PIR or education as the SEP indicator, both were significant independent positive predictors of intakes of energy, percentage of energy from protein, and overall dietary variety, but inverse predictors of percentage of energy from carbohydrate. In models with mutual adjustment for both PIR and education as SEP indicators, the interaction of PIR and survey was significant for saturated fat and dietary variety, while the interaction of education and survey was significant for carbohydrate and protein intake. For all other examined dietary variables the PIR or education differential was unchanged over surveys.

Funded in part by an NIH grant award CA108274.

743.3

Comparing nutrient intakes between dietary surveys

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Nutrient database values are updated frequently to account for improvements in analytical and sampling methods and to incorporate data for additional samples. Recently improved analytical data for several key foods such as milk, coffee, and bread were incorporated into the U.S. Department of Agriculture's multi-year Food and Nutrient Database for Dietary Studies. To illustrate the impact of database improvements, two comparisons were made between the intakes from National Health and Nutrition Examination Survey, 2001-02 and the Continuing Survey of Food Intakes by Individuals (CSFII) 1994-96, 1998. In one comparison CSFII intakes were coded with the original nutrient database; for the second comparison CSFII intakes were coded with a database to which data improvements since 1998 had been applied. Differences between the two comparisons in mean intakes and the contribution of selected food groups were estimated. Minor but statistically significant ($p=0.001$) differences in the comparisons were observed for most nutrients. Reversals of trends were observed for some nutrients/food components such as vitamin C and caffeine, whereas greater differences between the surveys were observed for some nutrients such as magnesium. Hence to ensure that comparisons of nutrient intakes between surveys are meaningful, improved nutrient values and food portion weights values may need to be applied to dietary intakes from earlier surveys, especially when there are changes involving key foods.

743.4

High prevalence of plasma hypertonicity among community-dwelling older adults –Results from the National Health and Nutrition Examination Survey (NHANES III)

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Objective: Recent data suggest that as many as 50% of older adults may have hypertonic plasma, an indicator of cell dehydration that predicts a range of adverse outcomes. To determine if a prevalence of this magnitude could be real, this study used nationally representative data to estimate the prevalence of hypertonicity, and test for biologically plausible associations between hypertonicity, older age, glucose dysregulation, hemoconcentration, reduced bioelectrical impedance (BIA), and water intake.

Design: Cross-sectional

Subjects: Community-dwelling adults (20-90y) who gave blood as part of the Third National Health and Nutrition Examination Survey (NHANES III) (n=14,855).

Statistical analyses: Plasma tonicity was estimated from glucose, sodium, and potassium. The weighted prevalences of mild (295-300 mOsm/l) and overt hypertonicity (= 300 mOsm/l) were estimated by age, sex, race/ethnicity, fasting, and glycemic status. Hyper- and normotonic (285-295 mOsm/l) groups were compared with respect to elevated blood chemistry values, BIA parameters, as well as total water intake (g, %AI, g/kg body wt), using multivariable models that adjusted for age, sex, race/ethnicity, and survey design.

Results: Mild and overt hypertonicity were observed in 40% and 20% of the sample, respectively. Hypertonicity was positively associated with older age, black race, impaired glucose tolerance, diabetes, and hemoconcentration, and inversely associated with BIA parameters. Hypertonicity was associated with greater water intake in younger adults, but decreased intake in older adults.

Applications/conclusions: Clinicians and researchers should be alert to hypertonicity in older adults.

743.5

Ethnic differences in vitamin D intake from foods consumed in the United States

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Among women 20-50y in NHANES III, 1988-1994, African Americans had the lowest, while white women had the highest Vitamin D intake. We identified ethnic differences in vitamin D intake among all age-gender groups using NHANES, 1999-2002, 24-hr recalls of 6,473 non-Hispanic white (W), 5,843 Hispanic (H), and 4,142 non-Hispanic black (B) sample persons aged 1 year and older, excluding pregnant/lactating females. Vitamin D content of survey foods was compiled using the USDA Nutrient Database for Standard Reference Release 16.1 (SR16.1) and Food and Nutrition Database for Dietary Studies (FNDDS). The database was completed for FNDDS codes not in SR16.1, and for survey foods not in FNDDS. Overall, vitamin D intakes of all three groups were significantly ($p<0.05$) different (W/H/B: 190±5, 164±6, 134±3 IU/d). The percentage contribution of dairy products (W/H/B: 59, 63, 48%), grains (W/H/B: 16, 16, 20%), and meat/poultry/fish (W/H/B: 14, 11, 20%) were also different. Vitamin D intakes of blacks were significantly different from both whites and Hispanics for girls 14-18y (W/H/B: 174±12, 136±10, 104±6 IU/d), while for boys 14-18y, whites were significantly different from both Hispanics and blacks (W/H/B: 263±13, 193±12, 180±14 IU/d). The percent of vitamin D from dairy was 66, 60, 52%, respectively, for W/H/B girls 14-18y, and 71, 62, 57%, respectively, for W/H/B boys 14-18y. Thus, significant differences